

MEMORANDUM

INTERMOUNTAIN POWER SERVICE CORPORATION

TO: George Cross
FROM: Dennis Killian
DATE: August 15, 2007
SUBJECT: Review of Unit 2 WEPCO Performance Data and Recommendations

Environmental, Engineering and Operations sat down together and reviewed the data and formulas for calculating WEPCO compliance. This is what they report:

- The data and formulas were reviewed and no errors or typos were found. The increase in WEPCO reported tons of SO₂ emitted appears to be accurate and should be addressed by changes in operation and maintenance of the scrubber. A different person in Environmental (Lynn Banks) is going to do one more point-by-point review to make sure that nothing was overlooked.
- The increase in WEPCO reported tons of SO₂ emissions appears to be caused by several factors;
 1. Unit 2 had a higher capacity factor last year than previous years. For the WEPCO program, and increase in capacity factor is the same as a decrease in scrubber performance. There is no normalization to the baseline years for capacity factor currently in the WEPCO calculations.
 2. Scrubber performance has dropped in the last six months by around 0.5% to 1%. This does not sound like much but, a decrease from 94% removal to 93.3% is actually a 10% increase in emissions which is definitely significant.

Recommendations

To correct this problem and get us back on track, we are recommending the following:

1. Every effort should be made to improve Unit 2 scrubber removal efficiency as quickly as possible. A change has already been made increasing the Unit 2 pH (5.7 to 5.75). We will evaluate if an additional change should be made to pH after a couple of days of operation. In addition to increasing pH, we recommend that the modules be checked for plugged nozzles, plugged strainers, leaking or

missing laterals or nozzles and that the pH instrumentation be calibrated. Any problems found should be corrected as soon as possible.

2. The operating target curve was changed in 2006 to loosen up the target when inlet SO₂ was below 0.9 lbs/mmbtu. We recommend that this be changed back to the original curve. This was not a factor in the current situation because the inlet SO₂ has averaged well above 0.9 lbs/mmbtu for 11 of the last 12 months but, if it ever does go low again it might help us gain some ground back.

3. Once a week, Environmental should do month end forecasts of WEPCO based on the operating information to date. These forecasts should be used to determine if additional steps should be taken to reduce SO₂ emissions. This should continue until a suitable cushion of tons of SO₂ emissions has accumulated to safely handle at least one bad month. This is probably around 100 tons.

4. Plans and procedures should be developed for the addition of sodium formate to Unit 2 in the event all other corrective actions fail. This includes checking into the availability and delivery of additional sodium formate. Since we know from previous testing that using sodium formate can reduce emissions by about half, we should be able to wait until the last week of the month to begin addition and still meet the WEPCO goal. We will prepare procedures, cost estimates and delivery schedules by the end of this week.

If you have any questions, please contact Jerry Hintze, Extension 6460.

JKH: